

### REMARKS

In the Office Action, claims 1-22 are pending. Claims 1-4, 7-10, 13, 14, 16-18, 20 and 22 are rejected. Claims 5, 6, 11, 12, 15, 19 and 21 are objected to. The specification is objected to. The drawings are objected to. These items are addressed in response to the Detailed Action provided by the Examiner.

#### *Drawings*

1. The drawings are objected to as failing to comply with 37 CFR §1.84(p)(5) because they include reference characters not mentioned in the description (nearly all characters in Fig. 3).

In response to item 1, the specification has been amended. Now included in the specification is paragraph [0018.1] that describes Figure 3. Support for the amendment appears generally throughout the specification. More specifically, features of Figure 3 now referenced in paragraph [0018.1] are explicitly referenced elsewhere (for example, as the first optical beam 110 and as the second optical beam 112) or are inherently defined by the subject matter and the features or functions thereof (for example, the beamsplitter 306 and the emergent portion of the secondary optical beam 310 and the secondary optical beam 308 depicted in Figure 3). No new matter has been added.

#### *Specification*

2. The disclosure is objected to because of informalities in paragraphs 6, 21 and 22.

In response to item 2, the disclosure has been amended. The recommendations of the Examiner have been incorporated into the amendment. No new matter has been added.

3. The title of the invention is not descriptive. A new title is required.

In response to item 3, the title has been amended. The recommendations of the Examiner have been incorporated into the amendment. No new matter has been added.

*Claim Objections*

4. Claims 19 and 21 are objected to under 37 CFR §1.75(c) as being of improper dependent form for failing to further limit the subject matter of a previous claim. More specifically, the Examiner has asserted that claims 19 and 21 contradict previous claims 13 and 17.

In response to item 4, claim 19 has been amended. It is considered that this amendment adds clarity that should overcome the objection of the Examiner. This amendment is not to be construed as an admission regarding the assertions of the Examiner, and is submitted for the sake of expediency. The amendment to claim 19 now claims, in part, that "the means for creating an interference pattern comprises rotating at least one of the beams of light." Support for this amendment is found in the fifth sentence of paragraph [0027]. It is considered that this amendment also addresses the objection to claim 21.

*Claim Rejections*

6. Claims 1 and 3 are rejected under 35 U.S.C. §103(a) as being unpatentable over Bardos (U.S. Patent No. 4,256,362) in view of Curtis et al. (U.S. Patent No. 5,339,305).

In response to item 6, claim 1 has been amended. Again, this amendment provides clarification and is not to be construed as an admission regarding the assertions of the Examiner, and is submitted for the sake of expediency. Applicant reserves the right to respond to the bases provided for rejection, should it be considered that the amendment to claim 1 does not overcome the references.

Claim 1 now claims, in part, a method of reading a set of data stored in a memory device, wherein the first selected hologram appears "in a selected layer of a plurality of layers."

Neither Bardos nor Curtis disclose or suggest a "plurality of layers" as is claimed in claim 1. Bardos makes reference to "the general one-dimensional configuration of the hologram contained in transparency 14." (col. 3, lines 31-33). Bardos makes such reference throughout the disclosure. For example, in col. 5, line 12, Bardos refer to "hologram 14" in the singular. Most notably, independent claims 1 and 20 specifically reference a **single hologram**. Nowhere does

Bardos disclose or suggest "a first selected hologram appearing in a selected layer of a plurality of layers" as is claimed in claim 1.

Curtis, on the other hand, makes reference to "recording volume holograms in successive cubic spots 84." (col. 4, lines 42-43). For a given spot, each hologram is "recorded in the same spot 84 at a slightly different angular orientation." This "is repeated until a number of holograms have been recorded at successive angular orientations in the same spot." (col. 5, lines 5-8). Nowhere does Curtis disclose or suggest "a first selected hologram appearing in a selected layer of a plurality of layers" as is claimed in claim 1.

It is considered that the amendment of claim 1 places claim 1 and all claims dependent thereon in condition for allowance. It is respectfully requested that Examiner reconsider the rejection of claim 1 and the dependent claims, with a subsequent finding of allowability.

9. Claims 7 and 9 are rejected under 35 U.S.C. §103(a) as being unpatentable over Bardos in view of LaMacchia et al. (Applied Optics, Vol. 7, No. 1, January 1968).

In response to item 9, claim 7 has been amended. Again, this amendment provides clarification and is not to be construed as an admission regarding the assertions of the Examiner, and is submitted for the sake of expediency. Applicant reserves the right to respond to the assertions of the Examiner, should it be considered that the amendment to claim 7 does not overcome the references.

Claim 7 now claims, in part, "a selected hologram having a discrete location and corresponding address in a selected layer of a plurality of layers in the memory device."

In addition to the amendment to claim 7, it is respectfully submitted that there is no suggestion or motivation to combine Bardos with LaMacchia et al. As pointed out above in response to item 6, Bardos is directed to reconstructing information stored in a **single hologram**. There is no suggestion or motivation anywhere in Bardos to reconstruct "a selected hologram having a discrete location and corresponding address in a selected layer of a plurality of layers in the memory device" as is claimed in claim 7.

In regard to combining Bardos with LaMacchia et al., it is respectfully pointed out that the mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination. *In re Mills*, 916 F.2d 680, 16 USPQ2d 1430 (Fed. Cir. 1990). Also, it is noted that although a prior art device "may be capable of being modified to run the way the apparatus is claimed, there must be a suggestion or motivation in the reference to do so." (916 F.2d at 682, 16 USPQ2d at 1432.). See also *In re Fritch*, 972 F.2d 1260, 23 USPQ2d 1780 (Fed. Cir. 1992).

It is considered that the amendment of claim 7 places claim 7 and all claims dependent thereon in condition for allowance. It is respectfully requested that Examiner reconsider the rejection of claim 7 and the dependent claims, with a subsequent finding of allowability.

12. Claims 13-14, 17-18 and 20 are rejected under 35 U.S.C. §103(a) as being unpatentable over Bardos in view of Reis et al. (U.S. Patent No. 5,877,875). To support this rejection, the Examiner has asserted that it would have been obvious to one of ordinary skill in the art to modify the device of Bardos for using multiple storage media.

It is respectfully submitted that this rejection is improper as the suggested combination of references would require a substantial reconstruction and redesign of the elements shown in Bardos as well as a change in the basic principle under which the Bardos construction was designed to operate. Refer to *In re Ratti* (270 F.2d at 813, 123 USPQ at 352.). For example, this would require, at least, insertion of the Cube Beam Splitter Array of Reis et al. Further, it is noted that many components in the drawings of Reis et al. are not discussed in the disclosure. Therefore, it is considered somewhat speculative to maintain that components are interchangeable or appropriate for use with Bardos. More to the point, it is considered that the proposed modification or combination of the prior art would change the principle of operation of Bardos for reconstructing information contained in a single hologram. Thus, it is considered that the teachings of the references are not sufficient to render the claims prima facie obvious. *In re Ratti*, (270 F.2d 810, 123 USPQ 349 (CCPA 1959).

For at least this reason, it is considered that claim 13 places and all claims dependent thereon are in condition for allowance. It is respectfully requested that Examiner reconsider the rejection of claim 13 and the dependent claims, with a subsequent finding of allowability.

*Allowable Subject Matter*

15. Claims 5-6, 11-12 and 15 are objected to as being dependent upon rejected base claims, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

In response to item 15, the cited claims have been amended and are now presented in independent form including all of the limitations of the base claim and any intervening claims. Applicant wishes to thank the Examiner for this finding.

*Additional Amendment*

Please note that claim 3 has been amended herein to address typographical errors therein.

**CONCLUSION**

It is believed that the foregoing amendments and remarks fully comply with the Office Action and that the claims herein should now be allowable to Applicants. Accordingly, reconsideration and allowance is requested. It is submitted that the foregoing amendments and remarks should render the case in condition for allowance.

Accordingly, as the cited references neither anticipate nor render obvious that which the applicant deems to be the invention, it is respectfully requested that currently pending claims 1-21 be passed to issue.

If there are any additional charges with respect to this Amendment or otherwise, please charge them to Deposit Account No. 07-0868.

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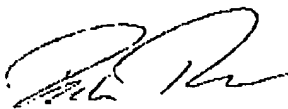
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Respectfully submitted,

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